

# Printing (CIP: 48.0201)

## Occupational Skills

The Student demonstrates the specified level of competency in occupational skills:

0	1	2	3	4
No Exposure	Introduced	Practiced	Entry-level	Competency

## GENERAL SKILLS

### INTRODUCTION TO THE PRINTING INDUSTRY

0 1 2 3 4

00000	A.	Introduction
00000	B.	Art & Copy Preparation
00000	C.	Electronic Imaging
00000	D.	Reproduction Photography
00000	E.	Image Assembly/Platemaking
00000	F.	Basic Offset Press
00000	G.	Bindery
00000	H.	Measurement
00000	I.	Safety and First Aid
00000	J.	Basic Math
00000	K.	Job Application Skills
00000	L.	Reproduction Photography

### ELECTRONIC IMAGING

00000	M.	Orientation Competencies
00000	N.	Type and Typography
00000	O.	Word Processing

00000	P.	Page Layout
00000	Q.	Scanning Operations
00000	R.	Graphics
00000	S.	Finishing/Binding
00000	T.	Advanced Electronic Prepress
00000	U.	Basic Offset Press
00000	V.	Advanced Press Operations
00000	W.	Image Assembly and Platemaking
00000	X.	Advanced Image Assembly and Platemaking

**DIRECTIONS**

Evaluate the student by checking the appropriate box to indicate the degree of Competency. The rating for each task should reflect **employability readiness** rather than the grades given in class.

**Rating Scale:**

- 0 No exposure**  
**1 Introduced-** the student has been exposed through non participatory instruction (e.g. lecture, demonstration, field trip, video).  
**2 Practiced-** the student can perform the task with direct supervision.  
**3 Entry-Level Competency-** the student can perform the task with limited supervision and/or does not perform the task to standard (a typical entry-level performance expectation).  
**4 Competency-** the student consistently performs task to standard with no supervision (on at least two occasions or at instructor's option).

**GRAPHIC ARTS****GENERAL SKILLS****INTRODUCTION TO THE PRINTING INDUSTRY**

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**A. Introduction**

- \*A.001 Define the role of graphics in the free enterprise system.
- \*A.002 Identify printing markets and types of printing businesses.
- \*A.003 List printing's ranking among other industries.
- \*A.004 Identify the major printing processes.
- \*A.005 List the advantages of each major process.
- \*A.006 List the disadvantages of each major process.
- \*A.007 Identify the products produced by each major process.
- \*A.008 List in order the business flow of printing from initial need to final product.
- \*A.009 List in order the technical production flow from idea to finished product.
- \*A.010 Identify major occupations in the graphic arts.
- \*A.011 List the major responsibilities for each occupation.
- \*A.012 Identify basic salary/wage expectation ranges for local area.

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**B. Art & Copy Preparation**

- \*B.001 Identify basic equipment and hand tools for paste-up.
- \*B.002 Identify basic materials and supplies for paste-up.
- \*B.003 Produce a simple paste-up using the correct procedures, equipment, tools and materials.

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**C. Electronic Imaging**

- \*C.001 Choose type using correct size and format.
- \*C.002 Identify fundamentals of type and its uses.
- \*C.003 Identify the various kinds of items that can be designed and produced using desktop publishing.
- \*C.004 Demonstrate a keyboard typing proficiency of 30 to 40 W.P.M.
- \*C.005 Organize a file management system for opening, copying, saving, and deleting files.
- \*C.006 Demonstrate file management operations for opening, copying, saving, and deleting files.
- \*C.007 Log-on/boot-up and print out a page layout program and demonstrate a functional knowledge of computer commands/codes/menus/palette for the software in use.
- \*C.008 Set text with appropriate margins, formatting, gutters, leading headings, etc....
- \*C.009 Flow copy from word processing program to page layout program according to job specifications.

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## **D. Reproduction Photography**

- \*D.001 Identify basic darkroom equipment and hand tools.
- \*D.002 Identify basic materials and supplies for line photography.
- \*D.003 Produce a good quality line negative using sensitivity guide/scale.
- \*D.004 Identify basic diffusion transfer exposure and processing equipment.
- \*D.005 Identify basic diffusion transfer materials for making line prints.
- \*D.006 Produce good quality line print using diffusion transfer process.
- \*D.007 Make a diffusion transfer print.

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## **E. Image Assembly/Platemaking**

- \*E.001 Identify basic stripping equipment and hand tools.
- \*E.002 Identify basic stripping materials and supplies.
- \*E.003 Produce a single color flat with correct dimensions and cutouts.
- \*E.004 Make necessary corrections to flat (i.e. opaque/scribing).
- \*E.005 Identify platemaking equipment and tools for offset metal plates.
- \*E.006 Identify plate material types and processing chemicals for making offset metal plates.
- \*E.007 Produce a correctly exposed and processed metal plate for offset printing.
- \*E.008 Identify direct image platemaking equipment.
- \*E.009 Identify direct image plate and processing materials.
- \*E.010 Produce a direct image plate for offset printing.
- \*E.011 Identify pin registration systems.

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## **F. Basic Offset Press**

- \*F.001 Identify basic offset duplicator parts and operations.
- \*F.002 Identify basic safety and operation procedures for an offset duplicator for single color printing.
- \*F.003 Perform basic setup for printing a single color job.
- \*F.004 Produce a printed single color job using an offset duplicator.

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## **G. Bindery**

- \*G.001 Identify operational and safety parts of a paper cutter.
- \*G.002 Identify grain direction of paper.
- \*G.003 Calculate basic paper cuts from stock sheet.
- \*G.004 Draw a master cutting diagram for making cuts.
- \*G.005 Make accurate paper cuts using a mechanized paper cutter.
- \*G.006 Identify basic paper types, weights, grades and classifications used in the printing industry.
- \*G.007 Identify padding equipment and hand tools.
- \*G.008 Identify padding materials.
- \*G.009 Produce correctly made pads of paper.
- \*G.010 Identify stapling and stitching equipment and hand tools.
- \*G.011 Identify stapling and stitching materials and supplies.
- \*G.012 Produce side and saddle stitched/stapled products.
- \*G.013 Identify punching/drilling equipment and hand tools.
- \*G.014 Measure to drill 3 ring notebook pages.
- \*G.015 Make holes for 3 ring notebook.
- \*G.016 Identify folding equipment and hand tools.
- \*G.017 Identify basic folds for printed products.
- \*G.018 Make a single fold using an automatic folding machine.
- \*G.019 Identify collating equipment and hand tools.
- \*G.020 Make sets of paper using collating equipment in proper sequence.
- \*G.021 Hand collate sets in proper sequence.
- \*G.022 Identify die cut products and the basic procedure for diecutting.
- \*G.023 Identify hot foil stamped products, basic equipment materials and procedures for foil stamping.

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## **H. Measurement**

- \*H.001 Measure linear dimensions for printing materials in inches and fractions of inches.
- \*H.002 Measure type in points and picas.
- \*H.003 Measure volume for mixing chemicals for darkroom and pressroom operations.

- \*H.004 Measure copy for reduction and enlargement using various methods to determine percentage setting.

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### I. Safety and First Aid

- \*I.001 Identify location(s) of fire safety equipment.
- \*I.002 Describe proper use of fire safety equipment.
- \*I.003 List safety rules involving flammable liquids.
- \*I.004 List the steps to be taken in case of injury in the lab.
- \*I.005 Identify location(s) of first aid kit(s) and eye wash station(s).
- \*I.006 MSDS-Read and comprehend Material Safety Data Sheets.
- \*I.007 Identify protective safety equipment where needed (gloves, goggles, ear plugs).
- \*I.008 Follow proper safety procedures when operating equipment.
- \*I.009 Follow approved shop dress code for safe operation including necessary personal safety equipment.
- \*I.010 Pass general lab safety test.
- \*I.011 Pass safety test in individual specialty area(s).
- \*I.012 Use approved methods to dispose of waste materials.
- \*I.013 Read, comprehend and follow instructions on warning labels.
- \*I.014 Demonstrate common sense when working with others.
- \*I.015 Demonstrate a working knowledge of the safety color code.

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### J. Basic Math

- \*J.001 Solve addition of whole number problems-2 and 3 digits.
- \*J.002 Solve addition of fraction problems.
- \*J.003 Solve addition of decimal problems-2 and 3 digits.
- \*J.004 Solve subtraction of whole number problems-2 and 3 digits.
- \*J.005 Solve subtraction of fraction problems.
- \*J.006 Solve subtraction of decimal problems-2 and 3 digits.
- \*J.007 Solve multiplication of whole numbers-2 and 3 digits.
- \*J.008 Solve multiplication of fraction problems.
- \*J.009 Solve multiplication of decimal problems-2 and 3 digits.
- \*J.010 Solve division of whole number problems-2 and 3 digits.
- \*J.011 Solve division of fraction problems.
- \*J.012 Solve division of decimal problems-2 and 3 digits.
- \*J.013 Solve fraction to decimal conversion problems.
- \*J.014 Solve decimal to fraction conversion problems.
- \*J.015 Solve decimals to percent conversion problems.
- \*J.016 Solve percent to decimals conversion problems.
- \*J.017 Solve basic ratio and proportion problems.
- \*J.018 Solve basic linear measurement problems.
- \*J.019 Solve basic type calculation problems.
- \*J.020 Solve basic liquid measurement problems.
- \*J.021 Solve basic paper cutting calculations.
- \*J.022 Solve basic points and picas measurement problems.
- \*J.023 Solve inches to pica conversion problems.
- \*J.024 Solve picas to inches conversion problems.
- \*J.025 Solve inches to points conversion problems.
- \*J.026 Solve points to inches conversion problems.
- \*J.027 Solve cost calculating problems.

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### K. Job Application Skills

- \*K.001 Demonstrate proper work ethic/habits.
- \*K.002 List means of locating job openings.
- \*K.003 Read and comprehend want ads.
- \*K.004 Write a personal resume.
- \*K.005 Write a cover letter for obtaining a printing job.
- \*K.006 Read and comprehend an employment application form.

- \*K.007 Complete a job employment application form.
- \*K.008 Practice job interview skills.
- \*K.009 Complete a telephone interview for a printing job.
- \*K.010 Write a follow-up letter.
- \*K.011 Make a follow-up telephone call.
- \*K.012 Evaluate benefit package for employment.
- \*K.013 Compare job opportunities.

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## **L. Reproduction Photography**

- \*L.001 Read and comprehend production information from job ticket/jacket.
- \*L.002 Identify safety considerations for darkroom operations.
- \*L.003 Practice safe work habits in darkroom operations.
- \*L.004 Identify basic parts of a reproduction process camera.
- \*L.005 Identify basic parts of a darkroom contacting unit.
- \*L.006 Identify basic components of a diffusion transfer unit.
- \*L.007 Identify safe lights and their uses with different kinds of film.
- \*L.008 Identify film processing and developing equipment.
- \*L.009 Demonstrate operations of process camera.
- \*L.010 Demonstrate operations of contacting darkroom unit.
- \*L.011 Demonstrate operations of brightlight contacting unit.
- \*L.012 Demonstrate operation of diffusion transfer processing equipment.
- \*L.013 Identify characteristics of film.
- \*L.014 Identify kinds of film.
- \*L.015 Identify and match safelights to film requirements.
- \*L.016 Identify film processing procedure.
- \*L.017 Identify chemicals used in processing film.
- \*L.018 Prepare chemicals for processing film using correct temperature and mixing ratios.
- \*L.019 Set percentages of process camera accurately using proportional scale for determining size changes of copy.
- \*L.020 Conduct standard exposure tests for line film.
- \*L.021 Conduct standard exposure tests for different line diffusion transfer materials.
- \*L.022 Conduct standard exposure tests for contacting line material in the darkroom.
- \*L.023 Identify characteristics for sensitivity guide.
- \*L.024 Position sensitivity guide on copying appropriate areas depending on type and process work use.
- \*L.025 Identify density ratings on a step guide.
- \*L.026 Increase or decrease exposure time using density ratings on a step guide as a guide to determine new time.
- \*L.027 Produce line negative using appropriate camera settings and processing procedures.
- \*L.028 Produce diffusion transfer line print using appropriate camera settings and processing procedures.
- \*L.029 Produce line positive/negative using appropriate contacting and processing procedures.
- \*L.030 Evaluate line negatives.
- \*L.031 Identify problem copy with fine line, heavy solid and color.
- \*L.032 Identify filters for holding and dropping color.
- \*L.033 Compute filter factors for using filters for proper camera work.
- \*L.034 Produce a line negative by dropping or holding color.
- \*L.035 Produce negatives from multi-color mechanicals.
- \*L.036 Identify line and halftone copy.
- \*L.037 Identify reflection and transmission copy, both color and black and white.
- \*L.038 Identify basic special effects and procedures for mezzotint, posterization and others.
- \*L.039 Identify basic halftone theory.
- \*L.040 Identify densitometers (both reflective and transmission) and their uses.
- \*L.041 Identify halftone screen types and percentages.
- \*L.042 Identify halftone exposure calculators.
- \*L.043 Identify halftone shooting procedures.
- \*L.044 Identify halftone developing procedures.
- \*L.045 Run exposure tests for main, shadow and bump exposures.
- \*L.046 Compute halftone exposures.
- \*L.047 Make halftone negative.
- \*L.048 Evaluate halftone negative.

- \*L.049 Make needed adjustments to halftone exposure and processing.
- \*L.050 Make exposure test for diffusion transfer halftone print.
- \*L.051 Make diffusion transfer halftone print.
- \*L.052 Evaluate diffusion transfer halftone print.
- \*L.053 Identify duotone copy and basic production procedures.
- \*L.054 Produce spreads and chokes.
- \*L.055 Compute exposure for making spreads.
- \*L.056 Compute exposure for making chokes.

## ELECTRONIC IMAGING

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### **M. Orientation Competencies**

- \*M.001 Read and comprehend production information on a job jacket/ticket.
- \*M.002 Identify the various kinds of items that can be designed and produced using desktop publishing.
- \*M.003 Identify the basic principles of design (i.e. unity, contrast, page proportions, balance, etc....).
- \*M.004 Incorporate the basic design principles in hand drawn sketches and measured layouts.
- \*M.005 Identify line copy.
- \*M.006 Identify continuous tone/halftone copy.
- \*M.007 Identify basic process color principles and kinds of four-color printing.
- \*M.008 Demonstrate understanding of electronic color proofing techniques.
- \*M.009 Identify basic phototypesetting equipment.
- \*M.010 Explain the advantages and disadvantages of phototypesetting.
- \*M.011 Identify basic desktop publishing equipment.
- \*M.012 Explain the limitations and capabilities of desktop publishing.
- \*M.013 Explain the differences in quality of photo-processed output and laser printer output.
- \*M.014 Demonstrate understanding of postscript software capabilities.
- \*M.015 Define the basic procedure(s) for interfacing desktop publishing with photo-typeset processing.
- \*M.016 Distinguish between work processing, page layout, and graphic software.
- \*M.017 Demonstrate the operation of the hardware components of a computer aided publishing system.
- \*M.018 Select appropriate software for word processing, graphics, scanning and page layout.
- \*M.019 Demonstrate a keyboard typing proficiency of 30 to 40 W.P.M.
- \*M.020 Organize a file management system for opening, copying, saving, and deleting files.
- \*M.021 Demonstrate file management operations for opening, copying, saving and deleting files.
- \*M.022 Prepare a series of hand drawn sketches for layouts incorporating appropriate marks (i.e. gutters, register marks, fold lines, etc.)
- \*M.023 Prepare a dummy for a multipage signature.
- \*M.024 Demonstrate on understanding of data exchange.

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### **N. Type and Typography**

- \*N.001 Measure copy/text in points and pleas using a line gauge.
- \*N.002 Measure type using a typefitting gauge.
- \*N.003 Identify x-height, mean-line, base-line, ascenders, descenders, and their roles in measuring and designing with type.
- \*N.004 Identify caps, lowercase, uppercase, small caps and ligatures.
- \*N.005 Define dingbats, bullets, rules, and symbols and their uses in publications.
- \*N.006 Distinguish between display (headline) type and body (text) type by their point sizes and styles.
- \*N.007 Identify the basic type styles and their uses.
- \*N.008 Define the "weight" and "posture" of type.
- \*N.009 Distinguish between serif and sans serif type styles.
- \*N.010 Explain letterspacing and kerning of type characters.
- \*N.011 Explain wordspacing and the relation of em and en in paragraph spacing.
- \*N.012 Define linespacing and explain the measurement principles for the leading of text.
- \*N.013 Define the type arrangements: flush left-ragged right, flush right-ragged left, centered, and justified.
- \*N.014 Define and demonstrate copyfitting.

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## **O. Word Processing**

- \*O.001 Mark-up copy for production of a printed piece.
- \*O.002 Select appropriate word processing software for a given job.
- \*O.003 Log-on/boot-up a word processing program and demonstrate a functional knowledge of keyboarding, mouse operations and procedures.
- \*O.004 Identify computer commands/codes/menus for the software in use.
- \*O.005 Organize a basic file management system for desktop publishing.
- \*O.006 Demonstrate file management operations for opening, copying, saving, and deleting files.
- \*O.007 Demonstrate a proficiency in conducting basic search operations.
- \*O.008 Demonstrate the uses of footers and headers.
- \*O.009 Produce a business letter using the appropriate margins, indents, tabs, etc., as required for the job.
- \*O.010 Set format and create simple galley text using appropriate display and text fonts, styles, point sizes, leading, character formats and paragraph formats, etc.
- \*O.011 Proof read manuscript copy and make necessary corrections using basic proofreading marks.
- \*O.012 Create a supporting data file for mail merge.
- \*O.013 Produce a form letter for mail merge.
- \*O.014 Design and produce a resume using desired fonts, styles, margins, indents, tabs, etc...
- \*O.015 Prepare text for merging/flowing into a page layout program.
- \*O.016 Design and produce copy incorporating text, graphics, rules, dingbats, etc...
- \*O.017 Demonstrate the use of an electronic dictionary, spell checker, and automatic hyphenation.
- \*O.018 Demonstrate the use of an electronic glossary.

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## **P. Page Layout**

- \*P.001 Select appropriate page layout software for a given job.
- \*P.002 Log-on/boot-up and print out a page layout program and demonstrate a functional knowledge of computer commands/codes/menus/palette for the software in use.
- \*P.003 Demonstrate text alignment, element positioning and rules of page design for printed matter.
- \*P.004 Set-up column grids for electronic page layout according to job specifications.
- \*P.005 Set-up/select appropriate pagination for a given job.
- \*P.006 Set text with appropriate margins, formatting, gutters, leading headings, etc...
- \*P.007 Place copy from word processing program to page layout program according to job specifications.
- \*P.008 Proofread, edit and make corrections/adjustment to copy on screen.
- \*P.009 Download fonts.
- \*P.010 Place graphics from an existing file into a publication.
- \*P.011 Demonstrate the procedure for cropping graphics electronically.
- \*P.012 Create a 2 sided, 3 panel brochure using graphics and text for publication.
- \*P.013 Create a 4-page newsletter using windows, blocks, text, graphics, frames and headings.
- \*P.014 Create a 2 page newsletter using drop caps for paragraph openings, wrap-a-rounds (run-a-rounds) and graphics.
- \*P.015 Create a printed piece using tints, reverses and manipulated type for effect.
- \*P.016 Produce a multicolor flyer using electronic spot color separations.
- \*P.017 Demonstrate a knowledge of available page layout programs-capabilities, advantages, disadvantages.

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## **Q. Scanning Operations**

- \*Q.001 Identify scanner hardware and its basic components and operations.
- \*Q.002 Identify basic scanner software, its uses and limitations.
- \*Q.003 Demonstrate appropriate scanner/program operations for line artwork.
- \*Q.004 Demonstrate appropriate scanner/program operations for continuous tone copy.
- \*Q.005 Place scanned graphics/photos into existing page layout.

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## **R. Graphics**

- \*R.001 Log-on/boot-up a graphics generating program and demonstrate a functional knowledge of commands/codes/menus/hand tools and procedures for their uses.
- \*R.002 Draw a design appropriate for a given job using a graphics program.
- \*R.003 Create a design using tints, fills and paint for a given job using a graphics program.
- \*R.004 Create a design using manipulated type (rotated, circled, extended, etc...) for a publication.

- \*R.005 Trace a drawing/photograph using a graphics program.
- \*R.006 Create a design/publication using electronic clip art.

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## **S. Finishing/Binding**

- \*S.001 Read and comprehend production information from job ticket/jacket.
- \*S.002 Identify safety considerations in bindery operations.
- \*S.003 Practice safe work habits in bindery operations.
- \*S.004 Identify basic hand tools in bindery.
- \*S.005 Identify basic materials in bindery.
- \*S.006 Identify basic equipment in bindery.
- \*S.007 Use folding equipment to produce a gatefold.
- \*S.008 Use folding equipment to produce an accordion fold.
- \*S.009 Use folding equipment to produce a double folded job.
- \*S.010 Describe and identify inline finishing systems.
- \*S.011 Describe how to use and set up programmable cutters.
- \*S.012 Describe the proper maintenance procedures for programmable cutters.
- \*S.013 Describe how to change the blade on an automatic paper cutter.
- \*S.014 Select and identify the most commonly used types of paper.
- \*S.015 Demonstrate knowledge of paper types related to their printing, folding and binding characteristics.
- \*S.016 Describe and identify offline finishing systems.
- \*S.017 Describe the fundamentals of saddle stitching and perfect binding.
- \*S.018 Identify packaging and shrink wrapping equipment.
- \*S.019 Identify and describe the use of automated sorting and labeling equipment.
- \*S.020 Demonstrate a knowledge of mail class rates (bulk, pre-sorted).
- \*S.021 List the operational procedures of embossing.
- \*S.022 Identify embossing equipment.
- \*S.023 List the common problems encountered in embossing.
- \*S.024 Identify the components of a case bound book.
- \*S.025 Compare modern case bound binding equipment with hand binding techniques.
- \*S.026 Store and properly handle substrates.
- \*S.027 Describe and identify U-V coatings.
- \*S.028 List the advantages and disadvantages of U-V coatings.
- \*S.029 Estimate the cost of materials and production for performing bindery operations such as cutting, scoring, folding, packaging and coating.
- \*S.030 List the techniques used to control waste production and disposal in a modern bindery.
- \*S.031 Identify spiral binding and wire binding equipment and products.
- \*S.032 Describe tipping in procedures.
- \*S.033 Square stock.
- \*S.034 Identifying problems with stock.
- \*S.035 Prepare folding dummies for the most commonly used impositions.
- \*S.036 Set up and operate folder consistent with job specifications.
- \*S.037 Describe the quality control methods for printing and evaluating bar codes.
- \*S.038 Perform preventive maintenance on a folder.
- \*S.039 Perform preventive maintenance on a paper cutter.

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## **T. Advanced Electronic Prepress**

- \*T.001 Read and comprehend production information on job jacket/ticket.
- \*T.002 Choose type using correct format, size, family, etc.
- \*T.003 Identify fundamentals of type and its uses.
- \*T.004 Identify basic color theory.
- \*T.005 Compare the capabilities, productivity and quality levels of high-end systems vs. low-end systems.
- \*T.006 Describe the application of digital photography in electronic imaging.
- \*T.007 Discuss the current developments of direct imaging technologies.
- \*T.008 List the capabilities and functions of image setters.
- \*T.009 Identify and compare digital proofs.
- \*T.010 Identify and compare networking systems.
- \*T.011 Describe the current systems/techniques for outputting files direct to plate material.
- \*T.012 Demonstrate an understanding of the Postscript page description language.

- \*T.013 Compare the leading operating systems in performance, use and capabilities.
- \*T.014 Understand storage guidelines and limitations.
- \*T.015 List the advantages and disadvantages of different storage media, such as syquest, optical, etc.
- \*T.016 List the use and capabilities of storage devices for electronic imaging work, transport and storage.
- \*T.017 Describe the strengths and weaknesses of TIFF, EPS, PICT, and DCS in a Postscript environment.
- \*T.018 Translate files from DOS to Mac formats, DOS to UNIX, etc.
- \*T.019 Use a file compression utility for file transfer or storage.
- \*T.020 Describe the differences between true type and postscript fonts.
- \*T.021 Use a telecommunications program and a modem to transfer files.
- \*T.022 Connect and use bulletin board services to transfer files.
- \*T.023 Create a single color layout using clip art.
- \*T.024 Create a single color layout using work and turn.
- \*T.025 Change contrast using tint screens and shading techniques.
- \*T.026 Create logo design on computer and integrate into a brochure design.
- \*T.027 Produce curved or special effects type using a graphics application.
- \*T.028 Produce a job on the computer using electronic imposition.
- \*T.029 Create a job that incorporates electronic trapping.
- \*T.030 Produce a multicolor job that includes scans, text and spot color artwork.
- \*T.031 Prepare page layout files containing graphic images for remote output.
- \*T.032 Follow instructions to produce, modify or output files according to customer supplied criteria.
- \*T.033 Use OCR software to capture text.
- \*T.034 Create logo based on scanned template.
- \*T.035 Calibrate a desktop scanner for producing halftone scans.
- \*T.036 Scan a continuous tone color original.
- \*T.037 Produce a halftone using a desktop scanner.
- \*T.038 Calibrate a desktop color scanner.
- \*T.039 Produce a color scan.
- \*T.040 Use a photo manipulation program to perform basic color correction and basic image cloning.
- \*T.041 Perform font management activities.
- \*T.042 Use backup utility to create backup tapes, cartridges or diskettes.
- \*T.043 Use backup utility to restore files to the hard drive or diskette.
- \*T.044 Perform system troubleshooting procedures.
- \*T.045 Demonstrate troubleshooting procedures for postscript errors, such as limitcheck.
- \*T.046 Calibrate a color monitor.
- \*T.047 Describe how to calibrate an imagesetter.
- \*T.048 Describe how film processor variations effect final output.
- \*T.049 Calibrate and perform quality control checks on the film processor.
- \*T.050 Explain the use of quality control data.

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## **U. Basic Offset Press**

- \*U.001 Read and comprehend production information from job ticket/jacket.
- \*U.002 Identify safety considerations for platemaking.
- \*U.003 Practice safe work habits to platemaking operations.
- \*U.004 Identify basic parts of the platemaker.
- \*U.005 Identify basic parts of the photo direct or electrostatic platemaker.
- \*U.006 Identify plate materials and plate types.
- \*U.007 Identify processing chemicals and methods.
- \*U.008 Identify platemaking procedures for metal plates.
- \*U.009 Identify platemaking procedures for photo direct or electrostatic plates (masters).
- \*U.010 Determine exposure time for metal plates using transparent step scale and rub down test.
- \*U.011 Prepare metal plates (expose, process and store).
- \*U.012 Make additions, deletions and repairs to offset plate.
- \*U.013 Make a plate using screen tints.
- \*U.014 Make a step/repeat using cutout or butterflies.
- \*U.015 Make a step/repeat using pin register system.
- \*U.016 Prepare a plate for multiple exposure on one side.
- \*U.017 Make plates for multicolor work.
- \*U.018 Identify safety considerations for press operations.
- \*U.019 Practice safe work habits on duplicator operations.

- \*U.020 Identify basic parts and systems of a press.
- \*U.021 Identify basic press operation procedures.
- \*U.022 Identify basic paper types and sizes.
- \*U.023 Determine grain directions of paper.
- \*U.024 Handle and jog paper stock (wire/felt, watermarks, carbonless sequence).
- \*U.025 Identify paper weight, coating and sizes.
- \*U.026 Identify paper problems: curling, etc.
- \*U.027 Identify offset ink types and uses.
- \*U.028 Identify ink additives.
- \*U.029 Identify ink problems.
- \*U.030 Set up, mix and test ink for printing using ink color chart for mixing requirements.
- \*U.031 Identify fountain solutions and additives.
- \*U.032 Identify fountain testing materials, equipment and procedures.
- \*U.033 Mix fountain solutions using appropriate ratios.
- \*U.034 Make-ready paper systems.
- \*U.035 Make-ready inking systems.
- \*U.036 Make-ready dampening systems.
- \*U.037 Print single color job using a metal plate.
- \*U.038 Print single color job using photo direct and/or electrostatic masters.
- \*U.039 Print a single color job two-sided.
- \*U.040 Print a single color job on carbonless stock.
- \*U.041 Print a single color job on envelopes.
- \*U.042 Print a single color job on heavy stock.
- \*U.043 Print a single color job work and tumble.
- \*U.044 Print a single color job work and turn.
- \*U.045 Print a two-color job on a duplicator without register marks.
- \*U.046 Print a two-color job using register marks.
- \*U.047 Print a two-color job with color bars.
- \*U.048 Print a 2 side two color job on business cards.
- \*U.049 Print a two-color job on a duplicator using a T-head.
- \*U.050 Perform daily cleanup and maintenance.
- \*U.051 Perform major cleanup and roller treatment.
- \*U.052 Make needed pressure settings on a press.
- \*U.053 Install and set blanket on a press.
- \*U.054 Clean and secure duplicator for down time.
- \*U.055 Evaluate print quality and make needed adjustments to improve printed piece.
- \*U.056 Calculate percentages of density for press.
- \*U.057 Print close register color work.
- \*U.058 Print heavy solid work making needed adjustments to improve quality.
- \*U.059 Check and adjust gripper bite on press.

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## **V. Advanced Press Operations**

- \*V.001 Read and comprehend production information from job ticket/jacket.
- \*V.002 Identify safety considerations in press operations.
- \*V.003 Read and comprehend material safety data sheets.
- \*V.004 Identify the hand tools used in press operations.
- \*V.005 Identify the major and minor systems of the press.
- \*V.006 Describe the operational procedures for each of the controls and adjustments on the press.
- \*V.007 Identify different feeding systems.
- \*V.008 Identify different delivery, drying and dampening systems.
- \*V.009 Describe the major systems of a web press.
- \*V.010 List the advantages and disadvantages of a web press.
- \*V.011 Identify and use a mechanical control of registration.
- \*V.012 Identify total pin registration systems.
- \*V.013 Identify press problems.
- \*V.014 Select the proper stock according to job specifications.
- \*V.015 Jog and load stock.
- \*V.016 Prepare press chemistry.
- \*V.017 Use and interpret Conductivity pH Meter.

- \*V.018 Set up, mix and test ink for printing using color chart for mixing requirements.
- \*V.019 Print a job on lightweight paper.
- \*V.020 Print a job a card or board stock.
- \*V.021 Print on a variety of paper finishes.
- \*V.022 Demonstrate knowledge of paper characteristics.
- \*V.023 Demonstrate knowledge of varnishes and coatings.
- \*V.024 Print a heavy solid coverage on coated stock.
- \*V.025 Print a series of jobs using a variety of different impositions.
- \*V.026 Print a multi-color job on a duplicator using an additional color head.
- \*V.027 Print a job containing duotone.
- \*V.028 Demonstrate proper waste disposal methods.
- \*V.029 Describe the difference between process and PMS color.
- \*V.030 Identify the common problems in color reproduction and describe the solutions.
- \*V.031 Print a multi-color, 2-sided job on coated stock.
- \*V.032 Print a process color job on uncoated paper.
- \*V.033 Print a process color job on coated paper.
- \*V.034 Describe the differences encountered in printing a process color job on coated and uncoated stock.
- \*V.035 Interpret color bars on a press sheet to determine quality and corrective action if necessary.
- \*V.036 Identify color densitometry principles and applications.
- \*V.037 Perform preventive maintenance.
- \*V.038 Reset roller pressures.
- \*V.039 Select and install plate and/or blanket packing.
- \*V.040 Change the blanket.
- \*V.041 Interpret quality control data.
- \*V.042 Identify printing reproduction standards on a 133 or above line screen.
- \*V.043 Identify and apply industry standards.
- \*V.044 Describe and identify direct imaging technologies.
- \*V.045 List the advantages of plate scanning technology.

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## **W. Image Assembly and Platemaking**

- \*W.001 Read and comprehend production information form job ticket/jacket.
- \*W.002 Identify safety considerations in stripping operations.
- \*W.003 Practice safe work habits in stripping operations.
- \*W.004 Identify basic hand tools in stripping.
- \*W.005 Identify basic materials in stripping.
- \*W.006 Identify basic equipment in stripping.
- \*W.007 Establish "true edge" and "vertical alignment" on a stripping table (square up).
- \*W.008 Lay out, measure and rule an unlined masking sheet showing relevant guidelines (edge of sheet, gripper margins, plate clamp, center marks, etc.) for 8 ½" x 11" single color work.
- \*W.009 Assemble and strip an 8 ½" x 11" negative.
- \*W.010 Make appropriate corrections to film negative and flat.
- \*W.011 Layout, measure and rule an unlined masking sheet showing relevant guidelines (edge of sheet, gripper margins, plate clamp, center marks, etc.) for 11" x 17" single color work.
- \*W.012 Assemble and strip single color flat for 11"x 17" using pre-ruled masking sheet.
- \*W.013 Layout, measure and rule on unlined masking sheet showing relevant guidelines (edge of sheet, gripper margins, plate clamp, center marks, etc.) for 8 ½" x 11" multi-color work using pin register system.
- \*W.014 Strip a flat for single color envelopes.
- \*W.015 Strip a flat for single color work and turn impositions.
- \*W.016 Strip a flat for single color work and tumble impositions.
- \*W.017 Strip a single color flat that includes screen tints.
- \*W.018 Strip single color flats for a 4-page signature.
- \*W.019 strip single color flat for an 8 page signature.
- \*W.020 Strip a line and half tone combination flat.
- \*W.021 Strip a multicolor job with color quality control bars for a 4-page signature.
- \*W.022 Strip a single color step and repeat flat (without pin register).
- \*W.023 Strip single color step and repeat flat using a pin register system.
- \*W.024 Check registration of multiple flats using daylight proofing material.

- \*W.025 Strip a multicolor job that uses masking film as a mechanical negative on one.
- \*W.026 Identify daylight contacting equipment.
- \*W.027 Identify daylight contacting material.
- \*W.028 Conduct an exposure test on daylight material.
- \*W.029 Produce a spread negative/positive for image fit using a contact control wedge as a guide.
- \*W.030 Produce a choke negative/positive for image film using a contact control wedge as a guide.
- \*W.031 Produce a composite negative using daylight material.
- \*W.032 Identify and strip a multi-color job using registration marks and clear masking materials.
- \*W.033 Proof color work with color proofing materials.
- \*W.034 Produce a 16 page signature dummy with proper imposition, pagination and directions.
- \*W.035 Identify safety considerations for platemaking.
- \*W.036 Practice safe work habits in platemaking operations.
- \*W.037 Identify basic parts of the platemaker and metal plates.
- \*W.038 Identify basic parts of the photo direct or direct transfer platemaker.
- \*W.039 Identify plate materials and plate types.
- \*W.040 Identify processing chemicals and methods.
- \*W.041 Identify platemaking procedures for metal plates.
- \*W.042 Identify platemaking procedures for photo direct or transfer plates.
- \*W.043 Determine exposure time for metal plates using transparent step scale and rub down feet.
- \*W.044 Prepare metal plates (expose, process and store).
- \*W.045 Make additions, deletions and repairs to an offset plate.

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## **X. Advanced Image Assembly and Platemaking**

- \*X.001 Read and comprehend production information from job ticket/job jacket.
- \*X.002 Identify safety considerations in the image assembly platemaking area.
- \*X.003 Read and comprehend material safety data sheets.
- \*X.004 Demonstrate the proper waste disposal methods.
- \*X.005 List the characteristics and uses of the various exposure systems.
- \*X.006 List the considerations that must be made related to paper characteristics.
- \*X.007 Describe and identify automated stripping equipment and procedures.
- \*X.008 Calibrate the exposure systems used in the prep department.
- \*X.009 Operate a film processor.
- \*X.010 Run control checks on a film processor.
- \*X.011 Understand total pin register systems.
- \*X.012 Demonstrate a knowledge of various substrates.
- \*X.013 Describe the methods used to create trap.
- \*X.014 List the considerations needed for the selection and usage of the correct plate material.
- \*X.015 Strip an 8-page signature with crossovers.
- \*X.016 Assemble a job using complementary flats.
- \*X.017 Produce a job using screen tints at the correct screen angles.
- \*X.018 Produce a job using special effects created in the prep department.
- \*X.019 Produce a job that involves undercuts and spreads.
- \*X.020 Strip a job containing a duotone.
- \*X.021 Strip a job containing a tritone.
- \*X.022 Describe the methods used to create flat color using screens and four-color process.
- \*X.023 Describe color theory.
- \*X.024 Describe the methods of screen angling as used in process color assembly.
- \*X.025 Strip a process color job.
- \*X.026 Produce a process color job that uses composite film and plate using common marks and color control bars.
- \*X.027 Produce composited film for platemaking.
- \*X.028 List the advantages of the different color proofing systems.
- \*X.029 Use advanced combination stripping to assemble a job.
- \*X.030 Identify and describe direct imaging technologies.
- \*X.031 Describe the use of plate scanning technology.
- \*X.032 Identify the common problems encountered in stripping.
- \*X.033 Describe the solutions to the common problems encountered in stripping.
- \*X.034 Describe the implications of dot gain and dot loss.
- \*X.035 Describe the dry dot etching process.